Subject-Based Information Gateways In The UK

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Abstract

This paper reviews the development of subject information gateways within the UK Higher Education community. The paper describes the eLib programme, which was responsible for the development of a range of gateways. The progression of several gateways from relatively simple catalogues of Internet resources to subject communities incorporating supplementary search engines is outlined. The paper concludes with suggestions for future developments for the gateways.

Networked Services In The UK

The UK Higher Education community funds the Joint Academic Network (JANET) and a range of services which exploit the network including a national mailing list service (Mailbase), information services (NISS and BUBL), bibliographical and dataset services (MIDAS and EDINA) and research and advisory services (UKOLN and UK Web Focus). In addition to these services (which are described in more detail on the JISC web site [1]), JISC (the Joint Information Systems Committee) funds a number of funding initiatives including JTAP [2] and eLib [3].

The eLib Programme

The eLib (Electronic Libraries) programme was established in response to a review of University Libraries carried out in 1993 [4]. As a result of the report's recommendations, the eLib programme was established, which was initially funded at a level of £15 million over 3 years. During this period about 60 projects were funded in a number of areas including access to network resources. The subject-based information gateways listed in Table 1 were amongst the projects funded.

Name	Subject	URL
ADAM	Arts, architecture, design, and media	http://adam.ac.uk/
Biz/ed	Business and economics	http://www.bized.ac.uk/
EEVL	Engineering	http://www.eevl.ac.uk/
OMNI	Health and Biomedicine	http://omni.ac.uk/
SOSIG	Social Sciences	http://www.sosig.ac.uk/

Table 1 - Subject Gateways Funded By eLib

Subject Gateways

The ADAM, Biz/ed, EEVL, OMNI and SOSIG gateways provide access to quality-assured information in their subject areas via searchable and browsable catalogues and together receive over half a million hits per month. Resources included in the catalogues are collected and assessed by subject specialists. Biz/ed, OMNI and SOSIG use a package known as **ROADS** to provide cataloguing and management functions. ROADS [5] is also an eLib-funded project, and provides a set of software tools and a standards framework for services such as information gateways. ADAM uses a database management system built by System Simulation Ltd [6] and EEVL uses a custom database written in-house in Java. Distributed searching across these and a number of other gateways is possible using the *whois++* protocol. Figure 1 illustrates a search for the term *disability* using the ROADS demonstrator Cross-service index [7].

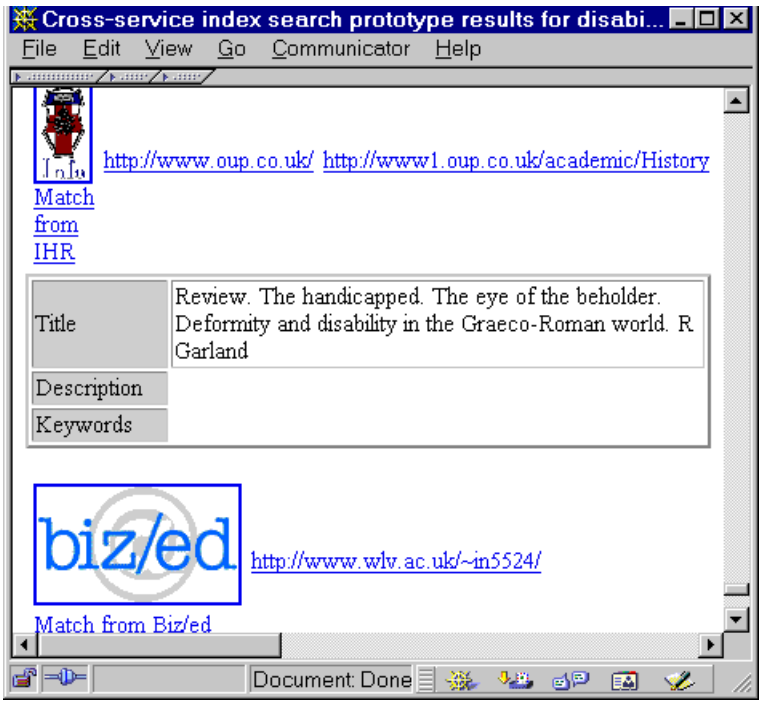

Figure 1 - Cross-searching Using ROADS

Automated indexing engines, such as AltaVista, provide greater coverage than manually compiled gateways. However the subject gateways guarantee that only quality resources are included in their catalogues. Systematic checking of the resources according to documented quality criteria ensure that catalogued resources do not degrade in quality. In addition, the subject focus of the gateways mirrors the focus of many enquiries from researchers and helps ensure that resources which are retrieved are relevant.

Subject gateways have, nevertheless, recognized a need to supplement their search capabilities with automated, limited area search engines. In addition to the SOSIG Internet Catalogue containing annotated entries for almost 5,000 resources, a searchable SOSIG Link Harvester Index [8] of over 50,000 social science Web pages has been added to the service. This is automatically generated from the URLs of all

sites included in the SOSIG Internet Catalogue and aims to provide better results for searches using more specific search terms than those which can be satisfied by the SOSIG Internet Catalogue.

Two harvested indexes and an archive of engineering newsgroups are available through EEVL [9, 10, 11]. To simplify its interface, EEVL is incorporating its various indexes into an All-in-one Search on the Internet for Engineering Resources which cross searches the various databases and returns search results on one page (Figure 2 illustrates a search for the terms *precision* and *machine*).

Figure 2 - EEVL's All-in-one Search Engine

Metadata

The metadata generated by the gateway catalogues is either Dublin Core (DC) compliant, or can be mapped to DC. The SOSIG harvested index also accesses metadata, where available, at its targeted sites and its broker uses it to create index records. A number of metadata creation tools are being developed, such as **DC-dot** [12].

Future Challenges

A new generation of search engines such as **Clever** [13] and **Google** [14] are being developed which make use of, for example, citation information. Such services give a high rating to resources which are linked from *important* web sites (such as **Yahoo!** which provides manually cataloged resources). There may be scope for integration of such automated search engines with information gateways.

The subject gateways provide cost-effective and valued services for their communities, but they currently face many questions concerning funding, lack of coverage in some subject areas, relevance of cross-searching, and improvement through increased use of metadata? Such issues are being discussed by the subject gateway community and through international collaboration as illustrated below:

- An outcome of the Second European Conference on Digital Libraries was agreement to use the IMESH (International Collaboration on Internet Subject Gateways) list [15] to aid consensus building, skill and technology sharing for subject gateway communities.
- JISC and the NSF (in the US) are seeking projects from UK and US consortia for an international programme of digital library research and development [16].

Within the UK Higher Education community such issues are likely to be addressed by the Resource Discovery Network Centre (RDNC) which has been set up recently to coordinate the activities carried out by subject gateways following publication of a scoping study [17].

Conclusions

Despite the continuing development of large automated search engines, subject gateways will continue to have an important role to play, although there may be benefits in integration of automated and manual approaches. In addition to such technical developments, there are benefits to be gained by a collaborative approach to the development of subject gateways. The authors welcome feedback from members of the international subject gateway community and invite them to subscribe to the IMESH mailing list.

References

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